

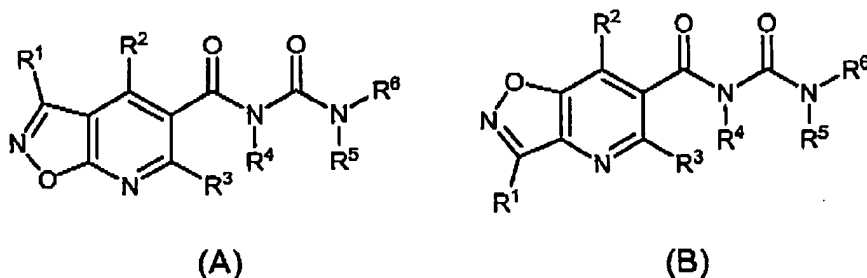
App. No. 10/716,363

Page 2

## CLAIM AMENDMENTS

1. - 39. (canceled)

40. (new) A compound of formula A or formula B:



where

$R^1$ ,  $R^2$ , and  $R^3$  are independently, hydrogen, or optionally substituted lower alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkyl(lower alkyl), optionally substituted heterocycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted aryl(lower alkyl), halo(lower alkyl),  $-\text{CF}_3$ , halogen, nitro,  $-\text{CN}$ ,  $-\text{OR}^9$ ,  $-\text{SR}^9$ ,  $-\text{NR}^9\text{R}^{10}$ ,  $-\text{NR}^9(\text{carboxy(lower alkyl)})$ ,  $-\text{C}(=\text{O})\text{R}^9$ ,  $-\text{C}(=\text{O})\text{OR}^9$ ,  $-\text{C}(=\text{O})\text{NR}^9\text{R}^{10}$ ,  $-\text{OC}(=\text{O})\text{R}^9$ ,  $-\text{SO}_2\text{R}^9$ ,  $-\text{OSO}_2\text{R}^9$ ,  $-\text{SO}_2\text{NR}^9\text{R}^{10}$ ,  $-\text{NR}^9\text{SO}_2\text{R}^{10}$  or  $-\text{NR}^9\text{C}(=\text{O})\text{R}^{10}$ , where  $R^9$  and  $R^{10}$  are independently, hydrogen, optionally substituted lower alkyl, lower alkyl- $\text{N}(\text{C}_{1-2}\text{ alkyl})_2$ , lower alkyl(optionally substituted heterocycloalkyl), alkenyl, alkynyl, optionally substituted cycloalkyl, cycloalkyl(lower alkyl), optionally substituted heterocycloalkyl(lower alkyl), aryl(lower alkyl), optionally substituted aryl, optionally substituted aryloxy, heteroaryl, heteroaryl(lower alkyl), or  $R^9$  and  $R^{10}$  together are  $-(\text{CH}_2)_{4-6}$  optionally interrupted by one O, S, NH, N-(aryl), N-(aryl(lower alkyl)), N-(carboxy(lower alkyl)) or N-(optionally substituted  $\text{C}_{1-2}\text{ alkyl}$ ) group,

$R^4$  and  $R^5$  are independently, hydrogen, lower alkyl optionally substituted lower alkyl, optionally substituted aryl, or optionally substituted aryl(lower alkyl), or, together, are  $-(\text{CH}_2)_{2-4}$ ,

$R^6$  is hydrogen, optionally substituted lower alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkyl(lower alkyl), optionally substituted heterocycloalkyl, optionally substituted aryl, optionally substituted aryl(lower alkyl), optionally substituted heteroaryl, optionally substituted heteroaryl(lower alkyl),  $-\text{C}(=\text{O})\text{R}^{11}$ ,  $-\text{C}(=\text{O})\text{OR}^{11}$ ,  $-\text{C}(=\text{O})\text{NR}^{11}\text{R}^{12}$ ,  $-\text{SO}_2\text{R}^{11}$ , or  $-\text{SO}_2\text{NR}^{11}\text{R}^{12}$ , where  $R^{11}$  and  $R^{12}$  are independently, hydrogen, optionally substituted lower alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkyl(lower alkyl), aryl, optionally substituted aryloxy, heteroaryl, heteroaryl(lower alkyl), or  $R^{11}$  and  $R^{12}$  together are  $-(\text{CH}_2)_{4-6}$ ,

or a pharmaceutically acceptable salt thereof, optionally in the form of a single stereoisomer or mixture of stereoisomers thereof.

41. (new) The compound of claim 40, where said compound is a compound of Formula A or a pharmaceutically acceptable salt thereof, optionally in the form of a single stereoisomer or mixture of stereoisomers thereof.

42. (new) The compound of claim 40, where said compound is a compound of Formula B or a pharmaceutically acceptable salt thereof, optionally in the form of a single stereoisomer or mixture of stereoisomers thereof.

43. (new) The compound of claim 40, where  $R^1$  is hydrogen, optionally substituted lower alkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted aryl(lower alkyl), halogen,  $-OR^9$ ,  $-NR^9R^{10}$ ,  $-C(=O)OR^9$ ,  $-C(=O)NR^9R^{10}$ ,  $-SO_2NR^9R^{10}$ , or  $-NR^9C(=O)R^{10}$ , where  $R^9$  and  $R^{10}$  are independently, hydrogen, optionally substituted lower alkyl, lower alkyl- $N(C_{1-2} \text{ alkyl})_2$ , lower alkyl(optionally substituted heterocycloalkyl), aryl(lower alkyl), optionally substituted aryl, heteroaryl, or heteroaryl(lower alkyl).

44. (new) The compound of claim 43, where  $R^1$  is optionally substituted lower alkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted aryl(lower alkyl), halogen,  $-OR^9$ ,  $-NR^9R^{10}$ ,  $-C(=O)OR^9$ ,  $-C(=O)NR^9R^{10}$ ,  $-SO_2NR^9R^{10}$ , or  $-NR^9C(=O)R^{10}$ , where  $R^9$  and  $R^{10}$  are independently, hydrogen, optionally substituted lower alkyl, lower alkyl- $N(C_{1-2} \text{ alkyl})_2$ , lower alkyl(optionally substituted heterocycloalkyl), aryl(lower alkyl), optionally substituted aryl, heteroaryl, or heteroaryl(lower alkyl).

45. (new) The compound of claim 40, where  $R^2$  is hydrogen, optionally substituted lower alkyl, cycloalkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted aryl(lower alkyl), halogen,  $-OR^9$ ,  $-NR^9(\text{carboxy(lower alkyl)})$ ,  $-C(=O)OR^9$ ,  $-C(=O)NR^9R^{10}$ ,  $-SO_2NR^9R^{10}$ , or  $-NR^9C(=O)R^{10}$ , where  $R^9$  and  $R^{10}$  are independently, hydrogen, optionally substituted lower alkyl, lower alkyl- $N(C_{1-2} \text{ alkyl})_2$ , lower alkyl(optionally substituted heterocycloalkyl), optionally substituted cycloalkyl, cycloalkyl(lower alkyl), optionally substituted aryl, optionally substituted aryloxy, heteroaryl, heteroaryl(lower alkyl), or  $R^9$  and  $R^{10}$  together are  $-(CH_2)_{4-6}$  optionally interrupted by one O, S, NH, N-(aryl), N-(aryl(lower alkyl)), N-(carboxy(lower alkyl)) or N-(optionally substituted  $C_{1-2} \text{ alkyl}$ ) group.

46. (new) The compound of claim 45, where  $R^2$  is optionally substituted lower alkyl, cycloalkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, optionally substituted heteroaryl,

optionally substituted aryl(lower alkyl), halogen,  $-OR^9$ ,  $-NR^9(\text{carboxy(lower alkyl)})$ ,  $-C(=O)OR^9$ ,  $-C(=O)NR^9R^{10}$ ,  $-SO_2NR^9R^{10}$ , or  $-NR^9C(=O)R^{10}$ , where  $R^9$  and  $R^{10}$  are independently, hydrogen, optionally substituted lower alkyl, lower alkyl- $N(C_{1-2} \text{ alkyl})_2$ , lower alkyl(optionally substituted heterocycloalkyl), optionally substituted cycloalkyl, cycloalkyl(lower alkyl), optionally substituted aryl, optionally substituted aryloxy, heteroaryl, heteroaryl(lower alkyl), or  $R^9$  and  $R^{10}$  together are  $-(CH_2)_{4-6}$  optionally interrupted by one O, S, NH, N-(aryl), N-(aryl(lower alkyl)), N-(carboxy(lower alkyl)) or N-(optionally substituted  $C_{1-2}$  alkyl) group.

47. (new) The compound of claim 40, where  $R^3$  is hydrogen, optionally substituted lower alkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted aryl(lower alkyl), halo(lower alkyl), halogen,  $-OR^9$ ,  $-NR^9R^{10}$ ,  $-C(=O)OR^9$ , or  $-C(=O)NR^9R^{10}$ , where  $R^9$  and  $R^{10}$  are independently, hydrogen, optionally substituted lower alkyl, lower alkyl- $N(C_{1-2} \text{ alkyl})_2$ , lower alkyl(optionally substituted heterocycloalkyl), optionally substituted cycloalkyl, cycloalkyl(lower alkyl), optionally substituted aryl, optionally substituted aryloxy, heteroaryl, heteroaryl(lower alkyl), or  $R^9$  and  $R^{10}$  together are  $-(CH_2)_{4-6}$  optionally interrupted by one O, S, NH, N-(aryl), N-(aryl(lower alkyl)), N-(carboxy(lower alkyl)) or N-(optionally substituted  $C_{1-2}$  alkyl) group.

48. (new) The compound of claim 47, where  $R^3$  is optionally substituted lower alkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, optionally substituted heteroaryl, optionally substituted aryl(lower alkyl), halo(lower alkyl), halogen,  $-OR^9$ ,  $-NR^9R^{10}$ ,  $-C(=O)OR^9$ , or  $-C(=O)NR^9R^{10}$ , where  $R^9$  and  $R^{10}$  are independently, hydrogen, optionally substituted lower alkyl, lower alkyl- $N(C_{1-2} \text{ alkyl})_2$ , lower alkyl(optionally substituted heterocycloalkyl), optionally substituted cycloalkyl, cycloalkyl(lower alkyl), optionally substituted aryl, optionally substituted aryloxy, heteroaryl, heteroaryl(lower alkyl), or  $R^9$  and  $R^{10}$  together are  $-(CH_2)_{4-6}$  optionally interrupted by one O, S, NH, N-(aryl), N-(aryl(lower alkyl)), N-(carboxy(lower alkyl)) or N-(optionally substituted  $C_{1-2}$  alkyl) group.

49. (new) The compound of claim 40, where  $R^4$  and  $R^5$  are independently, hydrogen or lower alkyl.

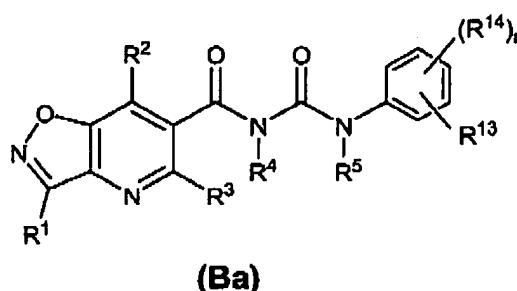
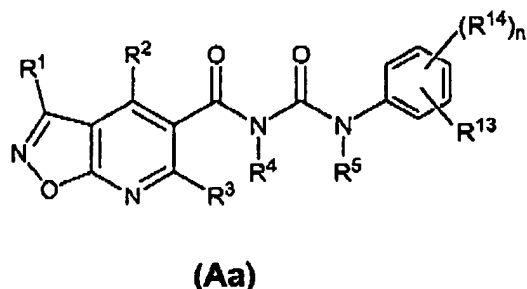
50. (new) The compound of claim 40, where  $R^6$  is hydrogen, optionally substituted lower alkyl, alkenyl, cycloalkyl, cycloalkyl(lower alkyl), optionally substituted heterocycloalkyl, optionally substituted aryl, optionally substituted aryl(lower alkyl), optionally substituted heteroaryl, optionally substituted heteroaryl(lower alkyl),  $-C(=O)R^{11}$ ,  $-C(=O)OR^{11}$ ,  $-C(=O)NR^{11}R^{12}$ ,  $-SO_2R^{11}$ , or

App. No. 10/716,363

Page 5

$-\text{SO}_2\text{NR}^{11}\text{R}^{12}$ , where  $\text{R}^{11}$  and  $\text{R}^{12}$  are independently, hydrogen, optionally substituted lower alkyl, cycloalkyl, cycloalkyl(lower alkyl), aryl, heteroaryl, heteroaryl(lower alkyl), or  $\text{R}^{11}$  and  $\text{R}^{12}$  together are  $-(\text{CH}_2)_{4-6}$ .

51. (new) The compound of claim 40 that is a compound of formula Aa or formula Ba:



where:

$\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^3$ ,  $\text{R}^4$ , and  $\text{R}^5$  are as defined in claim 40,

$\text{R}^{13}$  is hydrogen, optionally substituted lower alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkyl(lower alkyl), heterocycloalkyl, optionally substituted aryl, optionally substituted aryl(lower alkyl), optionally substituted heteroaryl, optionally substituted heteroaryl(lower alkyl), halo(lower alkyl),  $-\text{CF}_3$ , halogen, nitro,  $-\text{CN}$ ,  $-\text{OR}^{15}$ ,  $-\text{SR}^{15}$ ,  $-\text{NR}^{15}\text{R}^{16}$ ,  $-\text{C}(=\text{O})\text{R}^{15}$ ,  $-\text{C}(=\text{O})\text{OR}^{15}$ ,  $-\text{C}(=\text{O})\text{NR}^{15}\text{R}^{16}$ ,  $-\text{OC}(=\text{O})\text{R}^{15}$ ,  $-\text{SO}_2\text{R}^{15}$ ,  $-\text{SO}_2\text{NR}^{15}\text{R}^{16}$ ,  $-\text{NR}^{15}\text{SO}_2\text{R}^{16}$  or  $-\text{NR}^{15}\text{C}(=\text{O})\text{R}^{16}$ , where  $\text{R}^{15}$  and  $\text{R}^{16}$  are independently, hydrogen, optionally substituted lower alkyl, alkenyl, alkynyl,  $-\text{CF}_3$ , cycloalkyl, optionally substituted heterocycloalkyl, cycloalkyl(lower alkyl), optionally substituted aryl, optionally substituted aryloxy, optionally substituted heteroaryl, optionally substituted heteroaryl(lower alkyl), or, together, are  $-(\text{CH}_2)_{4-6}$  optionally interrupted by one O, S, NH or N-( $\text{C}_{1-2}$  alkyl) group,

each  $\text{R}^{14}$  is independently selected from optionally substituted lower alkyl, optionally substituted aryl, optionally substituted heteroaryl, hydroxy, halogen,  $-\text{CF}_3$ ,  $-\text{OR}^{17}$ ,  $-\text{NR}^{17}\text{R}^{18}$ ,  $-\text{C}(=\text{O})\text{R}^{18}$ ,  $-\text{C}(=\text{O})\text{OR}^{18}$ ,  $-\text{C}(=\text{O})\text{NR}^{17}\text{R}^{18}$ , where  $\text{R}^{17}$  and  $\text{R}^{18}$  are independently, hydrogen, lower alkyl, alkenyl, alkynyl,  $-\text{CF}_3$ , optionally substituted heterocycloalkyl, cycloalkyl, cycloalkyl(lower alkyl), optionally substituted aryl, optionally substituted aryloxy, heteroaryl, heteroaryl(lower alkyl), or, together, are  $-(\text{CH}_2)_{4-6}$ , optionally interrupted by one O, S, NH or N-( $\text{C}_{1-2}$  alkyl) group, and

where n is an integer of 0 to 4,

or a pharmaceutically acceptable salt thereof, optionally in the form of a single stereoisomer or mixture of stereoisomers.

52. (new) The compound of claim 51, where said compound is a compound of Formula Aa or a pharmaceutically acceptable salt thereof, optionally in the form of a single stereoisomer or mixture of stereoisomers.

53. (new) The compound of claim 51, where said compound is a compound of Formula Ba or a pharmaceutically acceptable salt thereof, optionally in the form of a single stereoisomer or mixture of stereoisomers.

54. (new) The compound of claim 51, where  $R^{13}$  is  $-OR^{15}$ , and  $R^{15}$  is hydrogen, lower alkyl optionally substituted with  $-C(=O)OR^{19}$ , where  $R^{19}$  is hydrogen or lower alkyl, alkenyl, alkynyl,  $-CF_3$ , cycloalkyl, optionally substituted heterocycloalkyl, cycloalkyl(lower alkyl), optionally substituted aryl, optionally substituted heteroaryl, or optionally substituted heteroaryl(lower alkyl).

55. (new) The compound of claim 51, where  $R^{13}$  is hydrogen, optionally substituted lower alkyl, alkenyl, heterocycloalkyl, optionally substituted aryl, optionally substituted aryl(lower alkyl), optionally substituted heteroaryl, optionally substituted heteroaryl(lower alkyl), halo(lower alkyl),  $-CF_3$ , halogen, nitro,  $-CN$ ,  $-OR^{15}$ ,  $-SR^{15}$ ,  $-NR^{15}R^{16}$ ,  $-C(=O)R^{15}$ ,  $-C(=O)OR^{15}$ ,  $-C(=O)NR^{15}R^{16}$ ,  $-OC(=O)R^{15}$ ,  $-SO_2R^{15}$ ,  $-SO_2NR^{15}R^{16}$ , or  $-NR^{15}C(=O)R^{16}$ , where  $R^{15}$  and  $R^{16}$  are independently, hydrogen, optionally substituted lower alkyl, alkenyl, cycloalkyl, optionally substituted heterocycloalkyl, cycloalkyl(lower alkyl), optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heteroaryl(lower alkyl) or, together, are  $-(CH_2)_{4-6}$  optionally interrupted by one O, S, NH or N-( $C_{1-2}$  alkyl) group.

56. (new) The compound of claim 55, where  $R^{13}$  is optionally substituted lower alkyl, alkenyl, heterocycloalkyl, optionally substituted aryl, optionally substituted aryl(lower alkyl), optionally substituted heteroaryl, optionally substituted heteroaryl(lower alkyl), halo(lower alkyl),  $-CF_3$ , halogen, nitro,  $-CN$ ,  $-OR^{15}$ ,  $-SR^{15}$ ,  $-NR^{15}R^{16}$ ,  $-C(=O)R^{15}$ ,  $-C(=O)OR^{15}$ ,  $-C(=O)NR^{15}R^{16}$ ,  $-OC(=O)R^{15}$ ,  $-SO_2R^{15}$ ,  $-SO_2NR^{15}R^{16}$ , or  $-NR^{15}C(=O)R^{16}$ , where  $R^{15}$  and  $R^{16}$  are independently, hydrogen, optionally substituted lower alkyl, alkenyl, cycloalkyl, optionally substituted heterocycloalkyl, cycloalkyl(lower alkyl), optionally substituted aryl, optionally substituted heteroaryl, optionally substituted heteroaryl(lower alkyl) or, together, are  $-(CH_2)_{4-6}$  optionally interrupted by one O, S, NH or N-( $C_{1-2}$  alkyl) group.

App. No. 10/716,363

Page 7

57. (new) The compound of claim 51, where  $R^{14}$  is independently selected from optionally substituted lower alkyl, optionally substituted aryl, optionally substituted heteroaryl, hydroxy, halogen,  $-CF_3$ ,  $-OR^{17}$ ,  $-NR^{17}R^{18}$ ,  $-C(=O)R^{18}$ ,  $-C(=O)OR^{18}$ ,  $-C(=O)NR^{17}R^{18}$ , where  $R^{17}$  and  $R^{18}$  are, independently, hydrogen, lower alkyl, alkenyl, or optionally substituted aryl.
58. (new) The compound of claim 56, where  $n$  is an integer of 1 to 2.
59. (new) The compound of claim 58, where  $n$  is 1.
60. (new) The compound of claim 51, where  $R^1$  is lower alkyl.
61. (new) The compound of claim 51, where  $R^2$  and  $R^3$  are independently selected from hydrogen, lower alkyl, halogen,  $OR^9$ ,  $-NR^9R^{10}$ , where  $R^9$  and  $R^{10}$  are independently lower alkyl, substituted lower alkyl, or substituted aryl, or  $R^9$  and  $R^{10}$  together are  $-(CH_2)_{4-6}$  optionally interrupted by one O, S, NH, N-(aryl), N-(aryl(lower alkyl)), N-(carboxy(lower alkyl)) or N-(optionally substituted  $C_{1-2}$  alkyl) group.
62. (new) The compound of claim 56, where  $R^{13}$  is independently selected from halogen, optionally substituted aryl,  $-CF_3$ ,  $-CH_3$ ,  $-CN$ ,  $-OR^{15}$ ,  $-C(=O)R^{15}$ ,  $-C(=O)OR^{15}$ ,  $-C(=O)NR^{15}R^{16}$ , or  $-CO_2H$ .
63. (new) The compound of claim 51, where  $R^{14}$  is independently selected from halogen, optionally substituted lower alkyl,  $-CF_3$ ,  $-OR^{17}$ , aryl, heteroaryl,  $-NR^{17}R^{18}$ ,  $-C(=O)R^{17}$ ,  $-C(=O)OR^{17}$ ,  $-C(=O)NR^{17}R^{18}$ , or  $-CO_2H$ , where  $R^{17}$  and  $R^{18}$  are, independently, lower alkyl, substituted lower alkyl, or substituted aryl, or, together, are  $-(CH_2)_{4-6}$  optionally interrupted by one O, S, NH or N- $(C_{1-2}$  alkyl) group.
64. (new) The compound of claim 51, where  $R^2$  is 4-methylpiperazinyl,  $R^{13}$  is 3- $CF_3$ , and  $R^{14}$  is 4-F.
65. (new) A pharmaceutical composition comprising:
- (a) a therapeutically effective amount of a compound of claim 40; and
  - (b) a pharmaceutically acceptable excipient.
66. (new) The pharmaceutical composition of claim 65, further comprising an anti-inflammatory drug, cytokine, or immunomodulator.

67. (new) A method of treating an allergic, inflammatory, or autoimmune disorder or disease, comprising administering a therapeutically effective dose of at least one compound of claim 40 to a mammal in need of such treatment.

68. (new) The method of claim 67, where the compound is administered in combination with an anti-inflammatory drug, cytokine, or immunomodulator.

69. (new) The method of claim 67, where the allergic, inflammatory, or autoimmune disorder or disease is selected from asthma, atherosclerosis, glomerulonephritis, pancreatitis, restenosis, rheumatoid arthritis, diabetic nephropathy, pulmonary fibrosis, inflammatory bowel disease, Crohn's disease, and transplant rejection.

70. (new) The method of claim 67, where the allergic, inflammatory, or autoimmune disorder or disease is associated with lymphocyte and/or monocyte accumulation.

71. (new) A method of inhibiting leukocyte migration, comprising administering a therapeutically effective dose of at least one compound of claim 40 to a mammal in need of such treatment.